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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,724	11/22/2006	Hendrik Johan Berends	5100-000016/US	5599
30593 7590 07/19/2009 HARNESSE, DICKEY & PIERCE, P.L.C. P.O. BOX 8910 RESTON, VA 20195				
EXAMINER MENON, KRISHNAN S				
ART UNIT		PAPER NUMBER		
1797				
MAIL DATE		DELIVERY MODE		
07/09/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/534,724

**Applicant(s)**

BERENDS, HENDRIK JOHAN

**Examiner**

Krishnan S. Menon

**Art Unit**

1797

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 10, 11, 19, 20 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 12-18, 21, 22 and 24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

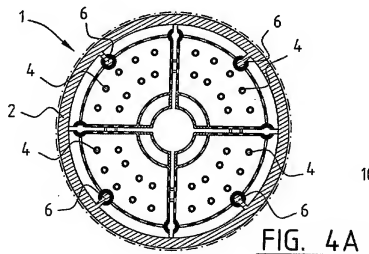
### *Election/Restrictions*

Applicant's election with traverse of claims 1-9,12-18,21,22 and 24 in the reply filed on 5/28/09 is acknowledged. The traversal is on the ground(s) that the cited references in the PCT search report do not anticipate the product claims. This is not found persuasive because at least US 4,038,190 does anticipate at least claim 1. If applicant is concerned about this reference not teaching "holders" (plural), see fig 17, which has two holders held together back-to-back. They are arranged in the inner wall.

The requirement is still deemed proper and is therefore made FINAL.

### Species Election:

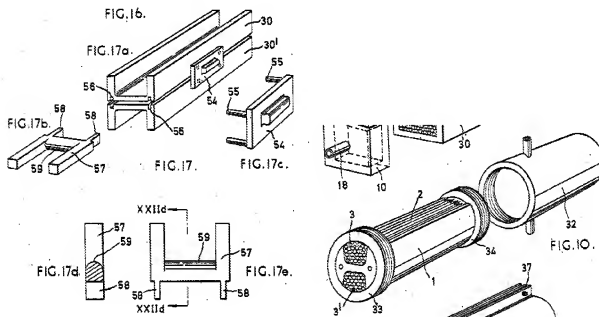
Applicant elected the species represented by fig. 4A, which is reproduced below for convenience:



***Claim Rejections - 35 USC § 102***

**1. Claims 1-4,6,7,12, 21,22 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Baudet et al (US 4,038,190).**

Claims 1,21: Baudet teaches a hollow fiber membrane module having plurality of bundles in holders, the holders running the full length of the housing and having open ends as claimed – see the figures reproduced below:



Claims 2,4, 7,12: Mutually connected by longitudinal slides – see plug 54 in fig 17c, which holds the two channels 30,30' of fig 17 together, and could function as a slide when the holder assembly is pushed into a cylindrical housing.

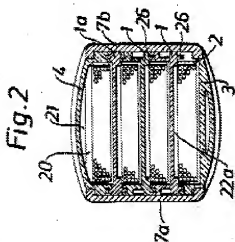
Claim 3,22: disconnectable sides/caps of the holder – see fig 4C – the parts 5 and 6 can be disconnected from the holder 23.

Claim 6: spacers – see fig 17b and 17c.

Claim 24: the space between the channels in fig 17 can be a bypass for the filter.

2. Claims 1-4, 6-9, 12, 21,22 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Spranger (US 4,231,879).

Spranger teaches a housing formed by (3,4,7a,7b) as shown in fig 2 copied below. Contained in this housing is a plurality of membrane stacks (1) in U-shaped holders. The sides of the holders have grooves having gasket material (26) in the form of ribs – see the figure. There are also by-pass spaces between (1) – space between 19,19', etc – see fig 1 in the reference. The holders are openable because of the way they are stacked – one mates with the next.



*Claim Rejections - 35 USC § 103*

3. Claims 1-9,12-18,21,22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spranger or Baudet'190 as in rejections 1 and 2 above and further in view of Baudet et al (US 3,993,816) and/or Dannenmaier et al (US 2004/0200768).

Some of the dependent claims differ in that (1) the walls of the holder being perforated, and (2) the sides of the holder can be disconnected to bend open the holder. Baudet'816 teaches perforated sides for the holder (see fig 10), and Dannenmaier teaches holders with longitudinal joints that can be disconnected and the holders bend open. It would be obvious to combine such details into the teaching of Baudet'190 or Spranger because these modifications add nothing more than predictable results to the combination. Particularly, the perforated walls provide fluid exchange, when the purpose of the holder is purely to hold the membranes in position for easy assembly, and does not contribute towards the performance of the finished product. Similarly, the bendable holder is also for easy loading of the hollow fibers for assembly, and is not otherwise contributing to the finished product.

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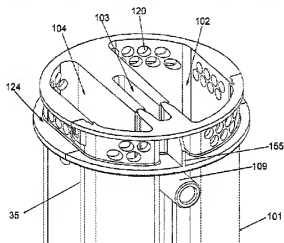


Fig. 8

Also non-patentable are the limitations claimed on the grooved and ribs, etc, which function purely for assembly, and thus part of the process of making, unless applicant can show secondary evidence for patentability.

### ***Allowable Subject Matter***

In an Examiner-initiated interview, the following suggestion was made to Mr. John Fitzgerald, attorney of record, on 6/29/09 to make the application in condition for allowance:

Claims 1, 7 and 8 when combined and further amended to include:

"coupling device comprises at least one rib extending lengthwise direction and attached to (or integral with) the inner wall of the housing ...",

"membrane holders comprise at least one mating groove for the at least one rib ...", and

"enabling sliding the membrane holders along the inner wall of the housing", would make claim 1 allowable; allowance by Examiner amendment if other claims are amended to depend from claim 1 or cancelled.

Applicant however requested an office action instead.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S. Menon whose telephone number is 571-272-1143. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on 571-272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Krishnan S Menon/  
Primary Examiner, Art Unit 1797